

# ***Interactive comment on “Aerosol Optical Depth retrievals in Central Amazonia from a Multi-Filter Rotating Shadow-band Radiometer on-site calibrated” by Nilton E. Rosário et al.***

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The authors main goal was to determine whether it was feasible to obtain a meaningful calibration of a sun radiometer in a less than optimal locale for performing Langley calibrations. Langley calibrations allow one to estimate the TOA response of a sun radiometer, but are best performed on a high mountain top above the boundary layer. To this end they compared aerosol optical depths obtain from an MFRSR with the CIMEL radiometer operated using the AERONET protocol. The CIMEL calibration is derived from comparison to instruments calibrated at Mauna Loa Observatory. The RMSE, which they define as a deviation from the AERONET results, was 0.025 and

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within the uncertainties of the two instruments. I find that the results of the paper are based on scientifically sound reasoning and should be acceptable for publication.

Should the authors be so inclined, I am curious whether the results would change if some other estimate of  $V_o$ 's such as the median or the method used in Michalsky et al. (2001) had been used to obtain  $V_o$ 's.

Could the authors explain why 2013 and 2014 data were not included?

A plot of  $V_o$ 's might be helpful in demonstrating the stability of the Langley results in most of the filters with the 870-nm filter an exception. It would also perhaps demonstrate the lack of a seasonal dependence seen in other MFRSRs since the temperature of the central Amazon is rather stable throughout the year.

There are a few grammatical and spelling errors, but none so egregious as to make the text misunderstood.

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